

REMARKS

Claims 1, 5-10, 19-23, 25-37 and 40 are pending in the present application. Claims 25-28 are withdrawn from consideration. Claims 1, 5-10, 19-23, 29-37 and 40 are rejected. Claims 1 and 5 have been amended. Claims 2-4 and 6-24 and 29-40 are herein cancelled. The present response is an earnest effort to place all claims in proper form for immediate allowance. Reconsideration and passage to issuance is therefore respectfully requested.

I. Detailed Action

The Examiner states that the application contains sequence disclosures that are encompassed by the definitions of nucleotide and/or amino acid sequences set forth in 37 CFR 1.82(1)(1) and (a)(2) but that a new computer readable form was not filed.

Applicants have submitted a substitute sequence listing in compliance with 37 C.F.R. 1.821-1.825, as well as a new Computer Readable Form and a new letter stating that the content of the paper and computer readable copies are the same, as requested by the Examiner. Applicants submit that the substitute sequence listing includes no new matter.

II. Claim Rejections

A. 35 U.S.C. § 112, first paragraph

Claims 1, 5-10, 19, 20-23 and 32 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, the Examiner states that the claim is indefinite over the recitation "said phenotype". The Examiner states it is not clear what phenotype is being referred to and the claims does not set forth how the polymorphism is related ton any phenotype or trait.

Applicants have amended claim 1 to the exemplary allowable claim identified by the Examiner in the March 29, 2007 Office Action at pp. 25-26, thereby alleviating this rejection. Applicants therefore submit that claim 1 is in condition for allowance.

With further regard to claim 1, the Examiner states the claim is indefinite over the recitation “the presence of a polymorphism in a MC4R gene as set forth in SEQ ID NO: 1”. The Examiner states it is unclear if “as set forth in SEQ ID NO: 1” modifies “a polymorphism” or the MC4R gene.

Applicants have amended claim 1 to recite the exemplary allowable claim identified by the Examiner in the March 29, 2007 Office Action at pp. 25-26, thereby alleviating this rejection. Applicants therefore submit that claim 1 is in condition for allowance.

With regard to claim 19 the Examiner states that “claim 19 is indefinite, because while the instant specification discloses a TaqI polymorphic site present at position 678 of instant SEQ ID NO: 1, this polymorphic site does not appear that it would be present at position 678 of the DNA amplified using instant SEQ ID NO: 5 and SEQ ID NO: 6.”.

Applicants have cancelled claim 19, thereby alleviating this rejection.

Regarding claim 20, and dependent claims 21-23, the Examiner states that the claim is indefinite because the preamble sets forth a method for identifying “pigs” but the methods steps refer to testing “an animal”. The Examiner further states regarding claim 20 that the claim conflicts with itself because it requires obtaining a nucleic acid comprising a gene “as set forth in SEQ ID NO: 1” but then requires identifying a substitution at position 678 of SEQ ID NO: 1.

Applicants have cancelled claim 20, thereby alleviating this rejection.

Regarding claim 22, the Examiner states that “claim 22 refers to a nucleotide that is present at ‘base 678 of the MC4R gene’ and this is indefinite because the number of a nucleotide

present at a particular position is entirely dependent on the primers used to amplify the fragment.”

Applicants have cancelled claim 22, thereby alleviating this rejection.

With regard to claim 32, the Examiner states that the claim is indefinite over the recitation “MC4R gene as set forth in SEQ ID NO: 1”.

Applicants have cancelled claim 32, thereby alleviating this rejection.

In light of the above amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

B. 35 U.S.C. § 112, first paragraph, Enablement

Claims 1, 5-10, 19-23, 29-37 and 40 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which does not meet the enablement requirement. The Examiner states the claims are not enabling for “for methods which screen other species of animals, or methods which utilize drawn conclusions based on nucleotide(s) present at positions other than 678 of SEQ ID NO:1, or methods which identify pigs that would produce meat with any other relative meat qualities or methods which identify/screen for any animal having any possible phenotypic trait, particularly, the specification is not enabling for the detection of pigs that would produce meat with differential marbling based on the nucleotide present in the position 678 of SEQ ID NO:1.”

Applicants have canceled claims 5-10, 19-23, 29-37 and 40, thereby alleviating this rejection with respect to these claims. Further, Applicants have amended claim 1 to recite the exemplary allowable claim identified by the Examiner in the March 29, 2007 Office Action at pp. 25-26, thereby alleviating this rejection with respect to claim 1.

Applicants have additionally amended claim 2 to read “A method for identifying a pig which possesses a genotype indicative of the phenotypes decreased Minolta and increased rate of weight gain, wherein a pig having an adenine at position 678 of SEQ ID NO: 1 is indicative of said pig being more likely to have one or more of the phenotypes than a pig with a guanine at position 678 of SEQ ID NO: 1, wherein the increase or decrease is relative to a pig having guanine at position 678 of SEQ ID NO: 1, said method comprising directly detecting the nucleotide present at position 678 of SEQ ID NO: 1 in an allele of the pig’s MC4R gene to determine the pig’s genotype, and relating the genotype to the phenotype.”

Support for this amendment is found in the specification at Examples 3, pp. 20-24. In Example 3, Applicants sampled 1146 pigs from six genetic lines. The least square means for these genotypes is shown in Table 1. As Table 1 demonstrates, pigs having a heterozygous genotype demonstrate improved decreased Minolta and increased rate of weight gain. In discussing the results demonstrated in Table 1, the specification states that “[t]he size of the effects observed between genotypes while small are of commercial significance in terms of differences in meat quality.” Specification, p. 23.

Accordingly, Applicant submits that the remaining claims are fully enabled and have fully satisfied the legal standards for enablement. Applicant respectfully requests reconsideration and withdrawal of the enablement rejections under 35 U.S.C. § 112, first paragraph.

C. 35 U.S.C. § 112, first paragraph, Written Description

Claims 1, 5, 6-8, 19, 29, 30, 31, 32, 33, 34, 35, 36, 37 and 40 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The

Examiner states the claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants have canceled claims 5-10, 19-23, 29-37 and 40, thereby alleviating this rejection with respect to these claims. Further, Applicants have amended claim 1 to recite the exemplary allowable claim identified by the Examiner in the March 29, 2007 Office Action at pp. 25-26, thereby alleviating this rejection with respect to claim 1.

One skilled in the art would thus recognize that Applicants have fully described and fully satisfied the legal standards of written description as of the filing date of the application. Accordingly, Applicants respectfully request reconsideration and withdrawal of the written description rejections under 35 U.S.C. §112, first paragraph.

D. 35 U.S.C. § 102

Claims 1, 5-10, 19, 30, 31, 33, 35, 36, 37, and 40 stands rejected under 35 U.S.C. § 102(a) as being anticipated by Rothschild et al (WO 00/06777). The Examiner states “Rothschild *et al.* teach a method of identifying an animal which possesses a genotype indicative of a phenotypic trait which comprises obtaining a nucleic acid sample from said animal, assaying for the presence of a polymorphism in the MC4R gene of the sample said polymorphisms being one which has been previously shown to be significantly associated with a phenotypic trait, said polymorphism further being an aspartic acid codon which is changed to an asparagine codon at an amino acid analogous to amino acid 298 of the human MC4R gene, and associating said animal with said phenotype trait based upon the genotype present in said animal.”

Applicants have canceled claims 5-10, 19-23, 29-37 and 40, thereby alleviating this rejection with respect to these claims. Further, Applicants have amended claim 1 to recite the exemplary allowable claim identified by the Examiner in the March 29, 2007 Office Action at pp. 25-26, thereby alleviating this rejection with respect to claim 1. Applicants respectfully requests the Examiner withdraw the rejections under 35 U.S.C. § 102(b) as being anticipated by Rothschild et al (WO 00/06777).

E. Double Patenting

Claims 1, 5-10, 19, 20-23, 29, 32-37, and 40 are rejected on the ground of Nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of U. S. Patent No. 6,803,190. The Examiner states that although the conflicting claims are not identical, they are not patentably distinct from each other.

Applicants are herein submitting a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c), which disclaims any term of a patent issuing from this application which would extend beyond the term of copending U.S. Patent No. 6,803,190.

Claims 1, 5-10, 19, 30, 31, 33, 35, 36, 37, and 40 are provisionally rejected on the ground of Nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11, 20-23, and 28-32 of co-pending application No. 10/834,485.

Applicants are herein submitting a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c), which disclaims any term of a patent issuing from this application which would extend beyond the term of any patent granted on co-pending application No. 10/834,485.

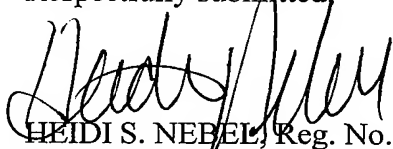
Conclusion

This is a request under the provision of 37 CFR § 1.136(a) to extend the period for filing a response in the above-identified application for one month from June 29, 2007 to July 29, 2007. Applicant is a large entity; therefore, please charge Deposit Account number 26-0084 in

the amount of \$120.00 to cover the cost of the one-month extension. Any deficiency or overpayment should be charged or credited to Deposit Account 26-0084. No other fees are believed to be due in connection with this amendment; however, consider this a request for any inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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Enclosure: Terminal Disclaimers, Sequence Listing